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ABSTRACT

Effective professional development of teachers is a critical concern that must be viewed holistically, considering equally the needs of the jurisdiction, the school, and the individual. A review of recent literature suggests four distinct types of teacher development: preservice training, curriculum related inservice, jurisdictional issue related inservice, and specific individual growth related activities. By examining the nature of incentives that foster teacher participation in curriculum development--an area in which many teachers are reluctant to become involved--it has been possible to identify incentives in related activities. Expectancy theory, which suggests that anticipation of rewards energizes behavior, provided the framework for identifying and compiling a list of 51 incentives most appropriate for motivating teachers. A study conducted in the New Brunswick school system narrowed this list of incentives to 10, only 1 of which is related to money. The implication for administrators is that traditional pay raises are inadequate incentives. Task-related and personal incentives must also be offered to teachers if they are to actively engage in growth related activities. Seven detailed charts are included in the paper, and five pages of references are appended. (IW)

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The Utilization of Incentives to Motivate Teacher Involvement in Professional Growth Related Activities

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The present concern with the professional growth of teachers is both rational and timely in light of the fluctuating student enrolments, the state of the economy, and the public demand for efficiency and effectiveness in schools. The interest in Canada reflects the resurgence of interest in the United States as evidenced by a massive number of articles published relating to professional development since 1978.

The term "professional development" creates considerable confusion. Nicholson et al. (1980) maintain that professional development is synomous with staff development, professional growth, personnel improvement and numerous other combinations of terms. Some argue that there is no room for its usage in relation to teachers since teaching has not attained the much discussed status of a profession, nor has it been much concerned with worker improvement.

Examining the literature related to professional development of teachers from an histrocial perspective, three distinct phases of research emphasis are identifable. The discussion of preservice and inservice education characteristic of the 1950's was succeeded by concern with preservice education, inservice education, staff development and individualized professional growth. Little attention has been paid, however, to a holistic view of the process of teacher professional development.

Within the context of an educational system professional development may be viewed from the perspective of the teacher, the principal and the central office administration. Wright (1983) described the view from the

perspective of the individual teacher as being a simple continuum from preservice education to inservice work. The preservice period typically has involved some subject specialization and a variety of professional courses. Inservice development from the teacher's perspective is considered to be the special training or information sessions provided by the employer in professional organization to facilitate changes in programs or special procedures in the school jurisdiction. These have traditionally centered around the introduction of curriculum changes, grading practices or classroom management issues such as discipline. Only recently has it been apparent that significant numbers of teachers are assuming responsibility for individual inservice efforts which they believe will increase their abilities in the classroom without necessarily improving their professional certification.

The principal must have a broader perspective regarding the professional development of teachers. Not only must the individual teacher needs be considered, but they must be considered in light of the needs of the school as an organizational unit. The principal must be concerned with the integration of the teachers' development with the specific knowledge, skills and attitudes needed to make the school effective. This point may be clarified through a simple example. A teacher may want to develop skills in photography to be utilized in the classroom, while the principal considering financial support for this effort, looks at the possibility of the teachers' providing extracurricular instruction for students.

In a similar manner, the central office view of professional development activities for teachers should be viewed in relation to the needs of the total administrative jurisdiction. Concern here would be for teachers'

individual development in terms of its contribution to their classroom performance, the effect it may have on the school, and the potential it has for total jurisdiction.

The discussion to this point implies that if the professional development is to be effective, it must be planned with a view to its effect on all three levels - the individual, the school, and the jurisdiction. Figure 1 presents a framework for viewing the professional development of teachers in this holistic faction. Research findings related to each section of the matrix are described briefly.

Preservice. Little research exists related to the perceptions held by persons entering teacher-training programs of their future need for professional development. The views of practising teachers, principals, and central office personnel are more formalized and considerable descriptive data is available about them. What appears to be most significant is that the preservice training of teachers is a major consideration in their becoming employees in a school jurisdiction. It is also considered in the lateration of teaching assignments throughout the career of the individual teacher.

Curriculum-related professional development. Nicholson et al. (1980) concluded that researchers have concerned themselves about the "what" of new programs to the virtual exclusion of the "why" and "how". They maintain that inservice programs have consisted almost entirely of information - gathering activities such as attending workshops, taking courses, reading journals, discussing teaching methods, and attending conventions (p. 20).

The literature related to the implementation of curriculum change

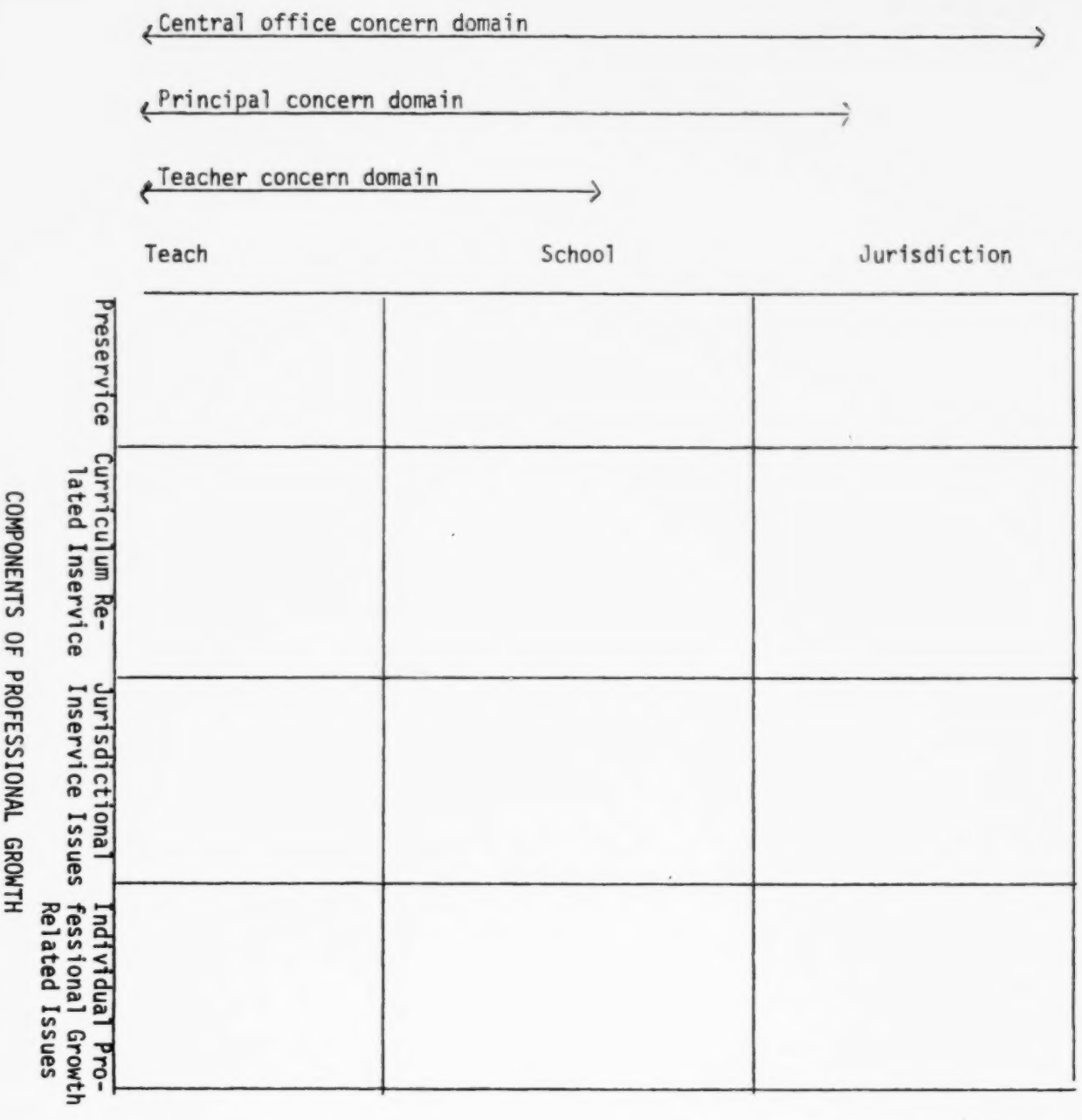

Figure 1: A holistic view of the professional growth of a teacher.

suggests that although the activities identified by Nicholson et al. are important, the thrust for curriculum change must be a carefully planned and sequenced cooperative effort in which consideration is given to the philosophy inherent in the curriculum and its "degree of fit" with what exists. Dialogue should be occuring across organizational levels (Czajknowski and Patterson, 1980). The curriculum change process occurs most effectively in organizations characterized by flexibility in accommodating teacher differences, i.e. exhibiting the tendence to target professional development activities toward individual teacher needs. Roles and expectations of central office personnel, principals and teachers must be identified clearly and communicated to all people involved with the change directly or indirectly (Dow and Whitehead, 1981).

People planning for the implementation of curriculum change should predicate professional development plans for teachers upon a careful analysis of the situation in which the change is to be introduced. Wright (1982) identified six groups of factors influencing the implementation process which should be central considerations in planning for implementation: the nature of the curriculum, the nature of the organization, the nature of strategies that might be used or have been used in the jurisdiction previously, the specific knowledge, skills and attitutdes of people who are or will be affected by the curriculum change, the exogenous intervening variables which exist in the school or division, and specific endogenous intervening variables.

The consideration of teacher beliefs has become a focus for discussion in planning for curriculum implementation (Werner, 1980; among others).

The inability of many teachers to express their philosophy of education indicates how rarely people formally conceptualize their beliefs about education in general. It also indicates the lack of effort in many educational jurisdictions to match teacher beliefs with the purported philosophy for the jurisdiction. Furthermore attitude development has sorely been neglected in professional development for curriculum change.

The knowledge of teachers during the curriculum change process and the actual level of use of the innovation have been the focus of a considerable body of research (Hall & Loucks, 1978; McKibbin & Joyce, 1980; among others). Assumptions underlying these studies are that teachers can change; further if the level of teacher use of a curriculum can be identified and the skills needed to utilize the curriculum more extensively prescribed, effective inservice training can alter the teacher's behavior in the desired direction. These approaches are considered manipulative by some and administratively sound by others.

Professional development activities related to curriculum change have several points of origin. Frequently they are generated by departments of education. They may, however, originate with directors, superintendents, principals, department heads, professional organizations, special interest groups, or individual teachers. Whatever the origin, administrative support is crucial.

Jurisdictional issue-related professional development. The professional development activities most frequently addressed in this category are those associated with the improvement of instructional processes of a general

nature or with the improvement of organizational processes (Grasha, 1978). Broad topic areas such as creative discipline, effective record keeping, test construction and school or divisional policies regarding student attendance are included. Bush (1971) maintains that this is the most common form of inservice and that the dominant methods used for delivery of this inservice are expository exhortations, demonstration teaching, supervised trials, and the analysis of performance. These activities are targetted toward schools, divisions or groups of teachers.

Individual professional growth related professional development. Two broad categories of activities can be identified in this category: those generated by the individual and those generated by others. Traditionally, activities generated by individuals for their own growth have included enrolling in a course to increase their instructional skills or their knowledge of subjects they teach, voluntary attendance at conferences and workshops, and professional reading.

Among the more common professional growth activities facilitated or planned by others are job-embedded opportunities including shared planning for teaching and job-related activities such as being members of curriculum and policy committees or the opportunity to visit other classrooms. These activities cannot legitimately be considered to be contributing to individual professional growth unless they occur at appropriate stages of the teachers' own development. The timing must be appropriate (Berman & MacLaughlin, 1978).

It is obvious that the categories of professional development activities described are not mutually exclusive. An activity aimed at changing teachers' curriculum behavior may, indeed, provide the stimulus for the individual

professional growth of another teacher or group of teachers.

What does emerge, however, is that individual teachers respond differently to differing methods of presenting professional development opporunities. Secondly, teachers vary in their professional maturity and in their willingness to grow (Doll, 1983). It should be possible to conceive of the professional development of a stable staff as an organizational maturity factor. As the teacher group in a school becomes more stable their needs for some types of inservice training should decrease. It cannot be assumed, however, that a teacher with a high level of professional development in one area will be at a similar level in others.

The literature suggests that a linear rational model is most appropriate for developing plans for teacher professional development. Four distinct phases are identified by most researchers as necessary for planning: a needs assessment, goal statements, planned activities, and evaluation of the effectiveness of each phase. Helge (1981) contends that three distinct perspectives are identifiable in relation to the manner in which plans are implemented: a managerial style, an information system approach, and multiple role approaches. Typically the linear rational models have focused on changes related to the curriculum or what are referred to as jurisdictional issues to the virtual exclusion of individual growth needs. The majority of professional development planning appears to be short termed resulting in what Houston and Pankratz (1980) described as "impotent" efforts because of the isolation of the events.

An ideal plan for professional development must focus on all aspects of the teachers' professional needs. Research indicates, however, that to

be effective in terms of the improvement of teaching practice, the plan must be school focused (Howey & Corrigan, 1981), include activities which are seen to influence students directly, provide the teacher with the opportunity to feel ownership through participation in its development, be abviously supported by upper levels of administration (King, Hayes & Newman, 1977), and carefully schedule activities so they reinforce desirable learnings (Kindle, 1971).

Planning for professional development is one thing but, fostering meaningful participation by teachers is quite another. There appears to be a reticience among teachers to become involved in many activities which have the potential to provide opportunities for their professional growth. This may be because of a perception of work involved, unfavorable past experiences, or a lack of the feeling of ownership (Howey & Corrigan, 1981). Cory (1969), Diaz (1973), and Paslawski (1973) identified the need for appropriate incentives systems to get teachers involved in professional development activities. Nicholson et al. (1980) conclude "...inservice education in the past has not been effective enough, and it is going to become much more important in the near future. New incentive systems, therefore, are going to have to be developed in order for other inservice goals to be accomplished...alternative methods of rewards must be added."

The literature related to the professional growth of teachers contends that educational administrators, particularly the principal, must assume responsibility for motivating teacher participation in appropriate professional growth activities (Barth, 1981; Carmichael, 1982; Corbett, 1982; Wood, McQuarrie & Thompson, 1982). The same literature suggests that one means of motivating teachers to become involved in such activities is to provide

appropriate incentive systems for their involvement. But what would such an incentive system look like? How could it be administered? How does the administrator reconcile the need for incentive systems with the current demands for budgetary restraint?

From the discussion above it is evident that one dimension of a holistic professional development program is that which is related to curriculum issues. By examining the nature of incentives which may foster teacher participation in curriculum development activities some clues may be found which will suggest a means of identifying incentives for other professional development related activities.

The relative importance of teacher participation in curriculum tasks has been a focal point of considerable research. Although there is controversy about the benefits of such teacher participation, the benefits appear to outweigh the possible adverse effects. Beecher (1978) has even concluded that the effectiveness of the classroom teacher is directly related to the degree of participation in curriculum development. Still there is a reticence among teachers to become formally involved in the process. Connelly (1974) attributed much of the unwillingness for involvement to unfavorable past experiences with related activities. If the confidence of teachers is to be restored and they are to become an integral and effective part of the curriculum development process "a radically different classroom life space, a radically different curriculum self-concept, and a radically different reward system "must be identified"(Harmer, 1977).

The purpose of the study reported here is to develop an instrument which will facilitate the identification of the incentives teachers consider

most appropriate for use with curriculum tasks. These incentives can then be utilized by administrators in planning for professional development in their jurisdictions.

The concept of incentives and incentive systems is not new to educational administrators. Maslow's Need Hierarchy Theory, Herzberg's Motivation - Hygiene Theory and Expectancy Theory have all been used to justify particular incentive schemes. Hunt and Hill (1977) suggest that the Expectancy Theory approach is the most justifiable alternative. Lawler (1976) identified the expectancy - valence theory as the dominant motivational theory in organizational psychology.

Expectancy theory is based largely in the works of Tolman (1932), Lewin (1938), Edwards (1954), Locke (1950), Rotter (1955) and Atkinson (1958). The currently most recognized forms of the theory are the Vroom (1964) model and its alterations. Basic to the theory is the assumption that it is the anticipation of reward that energizes behavior, and the perceived value of various outcomes that gives behavior its direction. There is a learned connection between behavior and outcome expectancy. It is the perceptions of the individual that are important, not the objective reality (Vroom, 1964).

The terminology associated with the Vroom model is needlessly confusing. The essence of the model is expressed by the equation:

Force = Valence x Expectancy.

In this equation, "force" is the motivation to achieve a specific goal, "valence" is a positive or negative measure of the strength of an individual's preference for a particular outcome, and "expectancy" is the belief that a particular act will be followed by a particular outcome (Campbell, 1970).

Vroom's theory is concerned more with the future consequences than with the influence of previous reinforcement history. In its original form, it has provided the basis for considerable organizational research, but the model is often viewed as a more useful research tool in modified forms (Campbell & Pritchard, 1976).

Glabraith and Cummings (1967) elaborated the Vroom model and used it to predict productivity of operative workers in a heavy equipment manufacturing plant. They distinguished between first level outcomes, predicted by the researchers, and second level outcomes provided by the organization for performance, such as fringe benefits, money, work group acceptance and the support of the supervisors. Utilizing graphic rating scales for instrumentality and expectancy, and an analysis based on step-wise multiple regression and a modified analysis of variance, the investigators concluded their research results were supportive of the Vroom theory.

Mitchell and Biglan (1971) maintained that the Galbraith and Cummings research hypotheses were inadequate. In addition, the values assigned to the expectancy of the subjects were disputed, outcomes were criticized as unrealistic, and the sampling procedures viewed as faulty. Second level outcomes, they argued, must be of importance to the subjects themselves.

Graen (1969) attempted to broaden the Vroom model's conceptual base by considering attitude theory and knowledge of the inter-personal process. Graen's model considered the full spectrum of job behavior in a system of multiple employment roles, and was concerned with the prediction of especially efficient performance as opposed to standard performance. The success of predictions with the model made it necessary that all the possible outcomes

of meeting or not meeting the standards of the task be identified. Three major classes of outcomes were included: those which are intrinsically granted or withheld, those externally mediated outcomes which pressure for conformity, and the externally mediated outcomes specified by the organization as attached to the role. The effort than an individual exerts to achieve the role or task is a function of the attraction to the role and the expectancy that a particular amount of effort will result in the role expectation. Campbell & Pritchard (1976) maintained that "basically, Graen is trying to predict the probability of superior effort expenditure" by employees (p. 76).

A model proposed by Porter and Lawler (1968) is less complex than those described so far. It attempted to avoid dealing with discrete effort levels. Rewards are viewed as having both extrinsic and intrinsic value. The model refers to the perceived attractiveness of possible outcomes. Effort is viewed as distinct from performance. It is the sum of successful role achievement, but not limited to productivity. Effort is determined largely by the individual's perceived "value of reward" (valence) and "effort reward probability" which is composed of the probability that performance depends on effort and that reward depends on effort and that reward depends on performance.

Basically, the Porter and Lawler model suggests that an individual's effort toward performing is a "multiplicative function of the perceived value of rewards and the perceived contingency between expending effort and obtaining rewards, which, in turn is a multiplicative function of the value of reward and effort 'reward" (Campbell & Pritchard, 1976, p. 78). Feedback occurs over time as the perceived effort-reward changes with the

actual extrinsic and intrinsic reward practices and as the individual's perception of the equitability between reward and performance changes.

Cummings and Schwab (1973) described Porter and Lawler's model as being useful in its suggestion that administration of rewards can be utilized to increase performance and effort. Lawler (1971, 1973) modified it to include more factors which determine the individual's expectancy that effort will lead to task accomplishments. Specifically, these include: task information, the individual's past experience with similar tasks, and the individual's self esteem. In essence, the effort exerted by an individual toward a particular task goal will be directly influenced by the valence for the perceived outcomes, and further, these outcomes are evaluated in terms of the potential for satisfying a need or needs. Valence exists at two levels: valence of the task goal and valence based on needs. Similarly, there are two levels of instrumentality; that of the task and that of the need satisfaction. Expectancy is influenced by all these factors.

In addition to the necessity of rewards being those perceived as important by the individual, studies utilizing expectancy theory to predict the behavior of engineers have indicated that incentives must also be perceived by the individual as being appropriate to the specific task. Arvey and Neel (1974) utilized an incentive list for engineers developed by Landy to predict expectancies, but found that their predictions were not as accurate as they had anticipated. In attempting to identify the cause of the lack of significance in their date, they interviewed part of their sample and were told that many of the incentives identified by the Landy instrument really did not represent those seen as appropriate to the

job being done by the group of engineers in the sample population. Ivancevich (1976) partly replicated the Arvey and Neel study by using the Landy instrument with a similar group of employees and predicting expectancies. They also developed an instrument paralleling that of Landy's based on incentives identified by the sample population as being suitable for the job being done. Expectancies were more significant with the second instrument, verifying the Arvey and Neel conclusion.

In summary, Expectancy Theory can be used to make predictions of the effort employees are willing to expend toward an organizational goal. The most significant expectancies, and therefore the greatest effort, can be predicted when the incentives offered are those considered appropriate to the task by the employee.

If Expectancy Theory is correct, educational administrators should expectaa specific group of incentives to be most appropriate as motivators for specific educational activies. Spuck (1974) concluded the "Educational institutions, like all organizations, must provide incentives which induce cooperative behaviors from organizational members" (p. 18).

It is also evident that consideration must be given to the specific types of productive activity the institution is seeking from teachers in the provision of incentives. If increased participation in curriculum tasks is desirable, the incentives offered must be those the teachers see as being appropriate to these tasks.

Limited literature deals directly with the delineation of specific curriculum tasks. Cook and Doll (1973), Russell (1975), and Olson (1976) identify some curriculum decision-making tasks but Young and Young (1979)

appear to incorporate all such tasks in an empirical model in their evaluation of the curriculum decision-making preferences of Alberta school teachers. Seven distinct tasks emerged which are identified together with additional support in Figure 2.

In order to be able to determine which incentives will be most effective in motivating teacher involvement in curriculum tasks, it is first necessary to identify which incentives educational administrators have at their disposal. The list of possible incentives would be limitless if parameters were not defined for their identification. Expectancy theory suggests that since teachers are the focus of the study, those incentives used with teachers should be of concern. The incentives used in the study were those identified as existing in North America's systems of education.

From the incentives identified from empirical investigations by Fuller and Miskel (1972), Cory (1973), Diaz (1973), Lortie (1975), Killian (1976), Kimball (1976), Jabker and Halinski (1977), Murphy (1977), and MacDonald (1978) a composite list of 77 incentives was compiled for use in the investigation. This composite list was later reduced to 51 incentives for use in instrument development (Figure 3).

Method

Four distinct but related stages are included in the methodology of the study. They are the development of an incentive list, the identification of curriculum tasks, the development and administration of an incentive list questionnaire, and the development and administration of the Instrument to Identify Incentives for Curriculum Tasks (IITCT).

TASK	ACTIVITIES	ADDITIONAL SUPPORT
Organizing a total program.	Determining what the total school program should do for students.	Beauchamp (1964)
	Evaluating the contribution of subjects.	Cook and Doll (1973)
	Deciding how new subjects can be optimally organized in total program.	Ingram (1974)
Selecting a "ready-made" curriculum	Locating currently existing materials.	Ingram (1974)
	Evaluating existing materials in terms of appropriateness, resource demand, and teacher behaviors.	Olson (1976) Russell (1976)
Adapting a "ready-made" curriculum.	Assessing the need for changes in goals, sequence, content, methods and materials.	Simpkins and Friesen (1969) Cook and Doll (1973) Oberg (1974)
Creating a curriculum	Classification of a subject's effect on students.	Cook and Doll (1973) Hill (1973)
	Assessment of contributions made by other fields of study to the subject.	Beauchamp (1975) Olson (1976)
	Sequencing ideas and skills.	Peltier (1976)
	Choice of topics and theme.	Schaffarzick (1976)
Translating a curriculum into instruction.	Identification of a particular curriculum and selection of teaching methods consistent with its purposes.	Johansen (1967) Simpkins and Friesen (1969) Cook and Doll (1973)
	Organizing learning experiences.	Olson (1976)
	Developing instructional materials.	Russell (1976)
	Creating units of study.	Oliver (1977)
Winning support for a new curriculum.	Identification of individuals and groups whose support is necessary for effective implementation.	Ingram (1974) Russell (1976)
Evaluating curriculum decision-making.	Assessing the effectiveness of other types of curriculum decision-making tasks.	Beauchamp (1964) Cook and Doll (1973)
	Appraising the utilization of time, money, personnel, expertise.	Hill (1973) Conelly (1974)
	Determining the quality and effectiveness of the curriculum, its implementation and student outcomes.	Olson (1976) Peltier (1976) Schaffarzick (1976)

FIGURE 2: Curriculum Decision-Making Tasks (after Young and Young, 1977)

1. Satisfaction from participating in decision-making which affects work.
2. Recognition for effective work accomplished.
3. Praise in private.
4. Assignment to committees to study problems of school.
5. Explicit role definition.
6. Committee membership.
7. Opportunity to address teacher groups.
8. Knowledge that the status of the profession will be increased.
9. Less responsibility (e.g. bus duty, fewer teaching hours).
10. Reimbursement for courses.
11. Public recognition.
12. Esteem of colleagues.
13. Opportunity to develop new skills and leadership.
14. Assignment as helper for staff needing assistance.
15. Feeling that your contribution and suggestions are helpful.
16. Feeling that your superior has confidence in you.
17. Opportunity to visit other schools and report on the visit.
18. Authority over peers.
19. Additional training.
20. Promotion.
21. Extra salary for training and experience.
22. Inservice education.
23. Opportunity to work with new teachers.
24. Support, assistance and encouragement from superiors.
25. Job security.
26. Increased self-confidence.
27. Travel funds to visit other systems.
28. Opportunity for publication.
29. More autonomy.
30. Assignment of a classroom assistant.
31. Opportunity to attend workshops and conferences.
32. Special privilege.
33. Increased opportunity to act as a consultant.
34. Release time.
35. Letter of recognition from your superior.
36. Support, assistance and encouragement from peers.
37. Recognition for the school in which you work.
38. Opportunity to improve existing curricula.
39. Knowledge that your suggestions are being considered.
40. Getting along with your supervisor.
41. Opportunity to participate in more areas of policy decision-making.
42. Increased adult contact in school hours.
43. Getting along with your peers.
44. Extra pay.
45. Sense of achievement.
46. Increased effectiveness as a teacher.
47. Challenge of the task itself.
48. Opportunity to teach a preferred group.
49. Good evaluation.
50. Provision of materials for use in your school.
51. Opportunity to work as part of a team.

Figure 3: Incentives Identified from the Literature

Development of the Incentive List

Each of the 77 incentives identified in the review of literature related to the motivation of teachers in North America was written on a 3" x 4" index card. Nine graduate students of education were asked to sort the cards to eliminate duplication of the incentives. On the basis of frequency of citing as duplicates, the list was reduced to 51 incentives.

To ensure that classroom teachers would agree with the overlap identified by the graduate students, 25 classroom teachers representing all three major grade divisions in the New Brunswick school system were asked to sort the cards. The same 51 incentives were identified as discrete. (These incentives are listed in Figure 3.)

Identification of Curriculum Tasks

The tasks identified by Young and Young (1977) which are described in an earlier section of this report were selected for use in this study. In identifying their curriculum decision-making tasks, Young and Young employed graduate students at the University of Alberta and classroom teachers to assure the discreteness and inclusiveness of each task. They also pilot tested their instrument housing the descriptions of the tasks three times before its administration to 1,292 teachers in 174 schools in Alberta. Significant differences in teacher preferences for participation in curriculum decision-making tasks were found to support the conclusion that the decision-making categories they suggested were discrete.

In describing the formulation of their seven task types, Young and

Young did not clearly identify support from the literature for the types of decision they identified. That such support exists has been demonstrated above.

Developing an Incentive List Questionnaire

To determine if a group of incentives exists that teachers believe most appropriate for curriculum tasks, a questionnaire was utilized. It is composed of an instruction sheet, a page of multiple choice demographic questions, and seven pages which describe each curriculum task and presents the list of 51 incentives. Because of the time required to complete the questionnaire, each respondent was given the instruction sheet, a personal data page for demographic information and was asked to rank the ten most appropriate incentives among the 51 (from first choice to tenth choice) for three of the seven tasks. The assortment of tasks was random among the questionnaires.

Population. The questionnaire was sent to 640 randomly selected members of the New Brunswick Teacher Association who were full-time classroom teachers. From these, 526 usable questionnaires were returned. This represents response from approximately 10% of the English-speaking teachers of the Province. Care was taken to includedonly full-time teachers in the sample, since evidence exists to indicate there may be differences in preference between full-time teachers, part-time teachers and administrators (Young and Young, 1977).

Questionnaires were distributed through the District Superintendent's office and respondents were given the option of returning the questionnaires through their superintendent or directly to the researcher. The frequency of

response to each task is shown in Figure 4.

TASK	FREQUENCY
1. Organizing a program	214
2. Selecting a "ready-made" curriculum	226
3. Creating a curriculum	226
4. Translating a curriculum	236
5. Adapting a curriculum	228
6. Winning support for a new curriculum	224
7. Evaluating curriculum decision-making	224

Figure 4 - Frequency of Response to Tasks

Analysis of the data and resulting incentives. The data collected from the incentives list questionnaire were analyzed utilizing the Statistical Package for the Social Sciences (SPSSH) program "Frequencies." Frequency of choice for each item was determined for each rank position and its percentage computed. This was used in determining the relative importance of each incentive for each task. Matrices were developed which showed the frequency of choice in each rank across the seven tasks. This provided a measure of the relative importance of each incentive across tasks. It was assumed that if a group was not appropriate to curriculum tasks, no major differences could be expected in the frequency of choice. Although the rank frequency varied somewhat across tasks, the same group of incentives was ranked highly in each task. The importance of these incentives was also evident from the matrices constructed. Ten incentives emerged as being clearly more appropriate to teachers for curriculum tasks. These are shown in Figure 5 with their relative ranking.

Rank	Incentive Number	Incentive	Score *	Percentage **
1	12	Opportunity to improve existing curricula	1102	(69.8%)
2	19	Increased effectiveness as a teacher	1053	(66.7%)
3	14	Feeling that your contributions and suggestions are helpful	847	(53.7%)
4	35	Satisfaction from participating in decision-making that affects work	830	(52.6%)
5	34	Opportunity to develop new skills and leadership	766	(48.5%)
6	28	Provision of materials for use in your school	701	(44.4%)
7	33	Sense of achievement	682	(43.2%)
8	29	Challenge of the task itself	671	(42.5%)
9	2	Increased self-confidence	587	(37.2%)
10	11	Knowledge that your suggestions are being considered	579	(36.7%)

Figure 5: Ranking of Outcomes According to Score Based on Frequency of Choice in Rank Across Seven Tasks

* Score refers to the total choices of this incentive from a possible 1578.

** This represents the total percentage of respondents who chose the incentive.

Development and administration of the IICT. The complexity of considering 51 incentives for seven tasks made the questionnaire described in the last section unsuitable for extensive use. The time required to complete the exercise and the inappropriateness of the majority of incentives required its simplification. A more desirable instrument requires fewer responses and enables each respondent to react to each task. The isolation of the ten most appropriate incentives enabled the development of such an instrument.

The IICT is comprised of nine pages. These include instruction; demongraphic questions and separate pages for each curriculum task with the list of incentives. Respondents are instructed to rank all ten incentives for each task.

Sample. The IICT was administered to 215 full-time classroom New Brunswick teachers. After six weeks, the test was re-administered to 204 of the same teachers. The remaining 11 teachers were not in their schools on the day of the second administration because of their involvement in other professional activities.

Analysis and presentation of data. The data were analyzed using the SPSSH program "Cross-tabulations" and "frequencies". Other specifically designed procedures were utilized in the determination of the statistics.

Frequency tables were constructed showing the ranking of each incentive for each task in both test and retest administration of the instrument. Data from these tables were used to determine a coefficient of attractiveness (A) for each incentive in each task utilizing the formula:

$$A = \frac{W_{10}f_i + W_g f_{ii} + \ldots + W_1 f_x}{ION}$$

where $W = 10, W = 9, \cdots\cdots, W = 1$ (W is a weighting factor)
f_i = frequency of subjects choosing rank i for this incentive and task.

The values of this coefficient appear in Figure 6 for each incentive in each task. The attractiveness of each incentive varies within and across tasks.

In determining the stability and consistency of the instrument for each incentive and for each task, data were clustered for analysis. Classes were formed housing the incentives ranked first-to-third, fourth-to-sixth, and seventh-to-tenth, and comparisons made between the test and retest data. This clustering resulted in some loss of information and, therefore, the measurements of reliability may be somewhat depressed. Three estimates of reliability can be extracted from these data for each incentive and each task. Each is briefly discussed.

A contingency coefficient is a measure of stability of an instrument over a period of time. It is the measure of association which ranges from 0, no association, to 1, complete association.

Eta is an intra-class estimate of reliability. It may be interpreted as setting the maximum possibility of reliability within the class. It ranges from 0 - 1.

Eta^2 provides an approximation of the percentage variance that can be explained in a predicted variable by using a predictor. Specifically, in this study Eta^2 provides a measure of the percentage variance on the retest that can be explained by knowledge of the original test results (Roscoe, 1975).

Percentage agreement may also be used as an estimate of reliability. It is readily calculated from the clustered data.

Intraclass correlation coefficients are inappropriate to these data. The same individuals appear in responses for both sets of data.

Incentive Rank	Curriculum Task Number						
	1	2	3	4	5	6	7
1	0.761	0.799	0.810	0.685	0.818	0.684	0.697
2	0.798	0.757	0.724	0.733	0.838	0.556	0.620
3	0.512	0.553	0.456	0.475	0.434	0.561	0.530
4	0.554	0.624	0.550	0.500	0.510	0.561	0.674
5	0.643	0.553	0.599	0.588	0.613	0.650	0.549
6	0.525	0.641	0.577	0.617	0.597	0.391	0.431
7	0.491	0.376	0.461	0.490	0.468	0.500	0.532
8	0.473	0.465	0.545	0.592	0.491	0.605	0.558
9	0.418	0.353	0.411	0.413	0.403	0.503	0.427
10	0.325	0.378	0.366	0.368	0.328	0.489	0.483

Figure 6: Coefficients of Attractiveness of Incentives for Tasks

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Figure 7 shows the values of contingency coefficients, Eta values and percentage agreement for each incentive in each task. Eta^2 values are readily estimated by squaring the given Eta value.

On the basis of the above analysis of data, it is possible to conclude that the IIICT is highly reliable. Although a single reliability figure for the entire instrument is not available, its reliability may be expressed as the range of reliability of its parts. In terms of the contingency coefficients this range is 0.69533 to 0.81113. Although contingency coefficients are considered to range from 0 to 1 in potential value, their range is limited somewhat by the amount of variance in the second administration explainable as the result of the first administration (expressed as an Eta value).

Another expression of the reliability of the instrument is possible by considering the range of Eta^2 scores. The range in this instrument is 0.67563 to 0.97193.

A third estimate of reliability of the whole instrument is the expression of the range of percentage agreement on all the parts. This represents the percentage of responses which were the same on the first and the second administration of the instruments. This range is from 86.3% to 98.0%.

In summary, the literature reviewed suggested that there were different types of curriculum decision-making tasks. Each of these task types has been incorporated in this instrument. It further suggested that employees, in this case teachers, can be motivated to work at specific tasks if the incentives are provided. All the incentives offered teachers for educational tasks have been extracted from the literature and included in the original listing of incentives utilized in the development of the instrument. The literature

Incentive	TASK 1	2	3	4	5	6	7	
1	0.79091	0.74901	0.77552	0.79399	0.80126	0.77574	0.78960	*
	0.96315	0.86958	0.84002	0.95775	0.94849	0.93897	0.94420	**
	96.6	91.6	95.1	95.0	96.5	92.6	93.1	***
2	0.79512	0.79076	0.79580	0.80391	0.80229	0.76435	0.76194	
	0.96576	0.94294	0.94876	0.97454	0.97799	0.89228	0.93403	
	96.6	95.0	96.7	97.6	98.0	89.7	90.2	
3	0.75956	0.75762	0.76803	0.79539	0.78189	0.78937	0.77174	
	0.85852	0.87581	0.88535	0.96865	0.92069	0.95027	0.92943	
	90.2	86.8	90.7	96.0	93.1	93.6	90.7	
4	0.77904	0.75115	0.77926	0.79712	0.77650	0.77332	0.79513	
	0.90201	0.89026	0.86533	0.96005	0.91736	0.90096	0.92899	
	91.7	86.3	92.1	95.0	91.2	90.7	95.6	
5	0.77499	0.77936	0.78882	0.80087	0.79577	0.77318	0.76723	
	0.90585	0.93991	0.93570	0.97169	0.93158	0.91449	0.84640	
	91.2	91.7	93.6	96.1	95.1	90.2	89.2	
6	0.76017	0.79941	0.78560	0.80867	0.78826	0.79371	0.72301	
	0.84242	0.97538	0.95228	0.98594	0.97131	0.84980	0.79371	
	88.7	96.6	93.2	98.0	93.7	96.6	86.3	
7	0.77927	0.79884	0.77421	0.77867	0.81048	0.80260	0.77634	
	0.90241	0.96289	0.91649	0.92927	0.97801	0.97669	0.91287	
	92.1	96.6	92.2	92.6	98.0	97.1	90.7	
8	0.75558	0.80501	0.79626	0.79934	0.78572	0.79303	0.76935	
	0.90395	0.97324	0.97010	0.97334	0.93995	0.96103	0.87972	
	88.8	97.1	95.5	96.0	92.7	94.6	90.2	
9	0.77014	0.81113	0.78619	0.79248	0.78409	0.79764	0.76442	
	0.91579	0.97938	0.93962	0.94806	0.94484	0.97349	0.90285	
	93.1	98.5	95.6	94.6	94.6	9o.1	89.2	
10	0.78843	0.79822	0.76362	0.79273	0.69533	0.78532	0.78308	
	0.97521	0.94276	0.94055	0.93579	0.88407	0.96684	0.92366	
	97.6	96.1	96.1	93.6	93.1	95.1	93.1	

Eta^2 provides an approximation of explainable variance.

Figure 7: Contingency Coefficients, Eta Values, and Percent Agreement for Each Incentive in Each Task.

* Contingency Coefficient

** ETA

*** Percentage Agreement

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describing empirical investigations of motivation which have employed Expectancy Theory suggests the existence of a specific group of incentives which is considered most attractive to the employee for each task. The methodology employed in the development of the IICT has facilitated the identification of the group of incentives considered by New Brunswick teachers as most appropriate for curriculum tasks. The calculated coefficient of attractiveness has also provided a means of determining the relative appropriateness of a specific incentive for a specific task.

With its relatively high reliability and its facility for discriminating among the attractiveness of incentives for curriculum tasks, the IICT is potentially valuable as a research instrument and as a tool in the establishment of curriculum decision-making policy. It seems reasonable to assume that similar instruments could be developed related to the other professional growth related activities from which groups of incentives of particular relevance may be identified.

Conclusion

It has been argued that the professional growth of teachers is a critical concern particularly in terms of declining enrolment, budgetary restraint and low teacher turnover. It is no longer rational to allow those activities which contribute to the professional growth of a staff to be considered only from the perspective of the teacher. A holistic view is needed in which the needs of the jurisdiction, the needs of the school and the needs of the individual are considered. This perspective implies that professional

growth related activities must be carefully planned and coordinated.

The literature related to professional growth suggests that four distinct types of activities are involved in the development of a teacher. These are: preservice training, curriculum related inservice, jurisdictional issue related inservice, and specific individual professional growth related activities. Focusing on one area, specifically curriculum decision making, it is apparent that many teachers are reticent to become involved for a variety of reasons in spite of the fact that their involvement has been demonstrated to be of direct professional benefit to themselves and to their students. This implies that the means should be found to motivate teacher involvement in curriculum decision making.

Expectancy Theory provided a framework from which to operate in the identification of incentives most appropriate for motivating teacher involvement. The theory suggests that each task has associated with it a set of incentives which will be most effective in the motivation of teachers' willing participation. It is not adequate for administrators to limit their incentives to the traditional increase in pay, but rather they must clarify the exact nature of the activities in which they want teachers to engage, and then identify the incentives to motivate their involvement.

An examination of the list of potential incentives identified from the literature (Figure 3) and the particular incentives emerging as relevant for curriculum decision making tasks (Figure 5) should be encouraging to administrators. Of the ten highest ranking incentives, only one is directly related to money, and that one is the provision of materials for use in the schools. Although there is no guarantee that the incentives for all professional growth related activities will be as dominantly intrinsic, it

is apparent that teachers are motivated by incentives frequently not used by administrators.

A three step procedure for administrators is implied by this research. The first step involves the identification of the profesional needs of the jurisdiction, the school, and individual teachers and their into an integrated plan. The second step is the determination of incentives available and their appropriateness for motivating teacher involvement in the particular activities. The third involves making the right incentives available to teachers for whom the specific professional growth related activities are desired.

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